

Work Order ID 65953

January 28, 2011 7:38:44 AM



Page 1

Item ID: D6101-005

Accept



Setup Start



Revision ID:

Stop



Item Name: Saddle Billet

Start Date: 1/28/11 Start Qty: 20.00



Cust Item ID:

Required Date: 2/11/11 Req'd Qty: 20.00



Customer:

Reference:

Approvals:

Process Plan: CLDate: 1/10/12

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start



Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D6101

Rev B

100

0.00



PURCHASING

Purchasing

Memo

0.00

Purchasing

Issue P/O: 13392

a) Description: Aluminum billet

b) 5.00" x 8.250" x 2.50" thick

c) Tolerance on all dimensions are +0.030"/-0.000"

d) Grain direction along 5.00" length

e) Material: 7075-T7351 (QQ-A-250/12)

f) Material certification required

CL 1/10/12 20

110

0.00



Receive & Inspect for Damage & Mat'l Certs

Packaging

Memo

0.00

Packaging

Ensure material certification is attached

CL 1/24/12 20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 65953



Page 2

January 28, 2011 7:38:44 AM

Item ID:	D6101-005	Accept		Setup	Start	
Revision ID:					Stop	
Item Name:	Saddle Billet					
Start Date:	1/28/11	Start Qty: 20.00		Cust Item ID:		
Required Date:	2/11/11	Req'd Qty: 20.00		Customer:		
Reference:						

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	
	QC:	Date:	SPC (Y/N):	Date:		Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 	QC6- Inspect dimensions to drawing	0.00							
QC Quality Control	Memo Ensure Material certification comply to Dwg D6101	0.00				20			
130 	Identify as per dwg & Stock Location: <u>MAT.</u>	0.00							
Packaging Packaging	Memo	0.00							
140 	QC21- Final Inspection - Work Order Release	0.00							
QC Quality Control	Memo	0.00							

mf 11/02/02

mf 11-02-08

mf 11/02/08

mf 11-02-08

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

January 28, 2011 7:38:43 AM

Page 1

Work Order ID: 65953



Parent Item: D6101-005



Parent Item Name: Saddle Billet


Start Date: 1/28/11

Required Date: 2/11/11

Start Qty: 20.00

Required Qty: 20.00

Comments: IPP A: ☐01.05.04 ☐New Issue ☐EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6101-005P  7075-T7351 8.25X5.0X2.5		Purchased	No			110	Each	0.0000	1	20			



Pull 2/1/11 (20)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

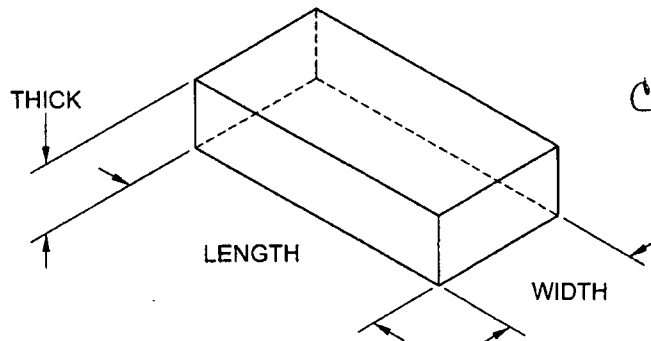
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

SPECIFICATION CONTROL DRAWING



CL 11/01/28
W10: 65953

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.030/-0.000), AND GRAIN DIRECTION AS SHOWN.

TOLERANCES ON ALL DIMENSIONS ARE +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES.

B ACCEPTABLE SPECIFICATIONS FOR 7075-T7351 ALUMINUM ARE AMS-QQ-A-250/12, QQ-A-250/12, OR ASTM B209

Part No.	Alloy	Length	Width	Thick	Grain Direction
D6101-001	7075-T7351 (QQ-A-250/12)	6.000	6.250	2.000	Along 6.000 Length
D6101-003	7075-T7351 (QQ-A-250/12)	7.875	6.250	2.000	Along 7.875 Length
D6101-005	7075-T7351 (QQ-A-250/12)	5.000	8.250	2.500	Along 5.000 Length
D6101-007	7075-T7351 (QQ-A-250/12)	7.750	8.250	2.500	Along 7.750 Length
D6101-009	7075-T7351 (QQ-A-250/12)	8.700	8.250	2.500	Along 8.700 Length
D6101-011	7075-T7351 (QQ-A-250/12)	9.700	8.250	2.500	Along 9.700 Length
D6101-013	7075-T7351 (QQ-A-250/12)	10.100	8.250	2.500	Along 10.10 Length
D6101-015	7075-T7351 (QQ-A-250/12)	9.450	6.250	2.500	Along 9.450 Length
D6101-017	7075-T7351 (QQ-A-250/12)	6.350	6.250	2.250	Along 6.350 Length

RELEASED
09/07/15/W

B	ADDED D6101-015/-017, ADD ASTM B209	RF	09.04.23
A	NEW ISSUE	CP	01.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	D6101	SHEET 1 OF 1
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	SADDLE BILLET, 7075	NTS
DATE	09.04.23	<small>COPYRIGHT © 2001 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO13392

Purchase Order Date 1/28/11
PO Print Date 1/28/11

Page Number 1 of 2

Order From :

VC-MET001

METAUX CASTLE
A.M. CASTLE & CO. (CANADA) INC. - BOX B9204 PO BOX 9100
TORONTO, ON M4Y 3A5
CA

Contact Name

Vendor Phone

Vendor Fax

Vendor Account Nbr

514 694 9575

514 695 3281

Buyer

Requisition Nbr

Tax Resale Nbr

Terms

Currency

FOB

Chantal Lavoie

10127-2607

Net 30

CAD

Destination-Collect

Ship To :

DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

FAKED
01/16/11

Line Nbr	Reference Revision ID Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	Req Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
1	D6101-005P	7075-T7351 8.25X5.0X2.5	2/03/11 Yes	20.00 Each	Yours ppd	\$61.0000	\$1,220.00
Special Inst: AS PER DWG D6101 REV. B B65953 MATERIAL: 7075-T7351 AS PER QQ-A- 250/12 SIZE: 5.00" X 8.250" X 2.50" THICK GRAIN DIRECTION ALONG 5.00" LENGTH TOLERANCE ON ALL DIMENSIONS ARE +0.030"/-0.000"							
2	D6101-007P	7075-T7351 8.25X7.75X2.5	2/11/11 Yes	20.00 Each	Yours ppd	\$79.2500	\$1,585.00

Special Inst: AS PER DWG D6101 REV. B
B65954
MATERIAL AS ABOVE
SIZE: 7.750" X 8.250" X 2.50" THICK
TOLERANCE SAME AS ABOVE
GRAIN DIRECTION ALONG 7.750"
LENGTH

No substitution or deviation without
consent.
Certificate of Conformity or Material
Certification required when applicable

Change Nbr: 1

Change Date: 1/28/11

**Castle Metals®**

A. M. Castle & Co.

BORDEREAU DE MARCHANDISES

Page 1 of 1

No de Formulaire d'Emballage / Pack Slip No:536155

Expédié de / Ship From:		Vendu à / Sold To:		Expédié à / Ship To:		Livré à / Deliver To:	
Castle Metals Wichita East 3050 S Hydraulic Wichita, KS 67216		DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7		WILL CALL-MONTREAL 835 SELKIRK AVENUE POINTE CLAIRE, QC H9R 3S2			
Date d'expédition / Date Shipped	F.O.B.	Modalités de transport / Freight Terms		Transporteur / Carrier	N° du Bon de connaissance / BOL No	N° de livraison / Delivery No	
31-JAN-11	ORIGIN	Prepaid		CASTLE_NETWORK K	539479	66063306	

Détails d'expédition / Shipment Details			Destination finale / Final Destination Branch -			
N° de commande / Order No	N° de ligne / Line No	N° d'article / Item No	Description			
1217950	1	752241.MO	2.5000.PL.7075.T7351.ALUMINUM.US1.48.5000.144.5000 CUT 2SIDED TO 8.25 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 5")) X 5 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 5")) - ALUMINUM PLATE SAW SPECIFICATIONS: QQ-A-250/12			
N° de bon de commande / Purchase Order No		Nbre de pièces / Part Number		Qté commandée / Ordered Qty	Qté Facturée / Invoice Qty	Solde à livrer / Backorder Qty
13392		YOUR ITEM NUMBER: D6101-005		20 PCS	20 PCS	
Détails / Details						
Usine / Mill	No de coulee / Heat Number	Code mec / Mech Id	Pièces / PCS	Largeur (Pouce) / Width (IN)	Longueur (Pouce) / Length (IN)	Qté expédiée / Shipped Qty (LBS)
	485572A2		20			213.31

Ces marchandises/technologies sont sujettes aux règlements de l'Export Administration et du département d'état des États-Unis. Si elles ont été/sont exportées, elles doivent se conformer à ces règlements. Toute modification du contrat de transport contraire aux lois des États-Unis est interdite.

These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited.

Nous certifions par la présente que le matériel couvert par cette certification est conforme aux spécifications susmentionnées et aux exigences applicables pour le matériel, y compris toute spécification faisant partie de la description. Les rapports d'essai sont archivés pour fins de consultation. Toute requête concernant du matériel défectueux sera rejetée à moins qu'elle ne soit faite par écrit à A. M. Castle & Co. dans les 60 jours suivant la livraison. Le matériel coupé sur mesure ou coupé par le client ne peut être retourné pour crédit.

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.

Ce matériel a été reçu et inspecté par
This material has been received and inspected by:

Date:

May 3, 2010 5:07:13 PM

Handwritten signature
11/02/02



Castle Metals®

A. M. Castle & Co.

BORDEREAU DE MARCHANDISES

Page 2 of 2

Ce matériel a été reçu et inspecté par Reviewed by Authorized Castle Metals Representative:		Date:	
--	--	-------	--

SHIP TO:

CASTLE % CASTLE AEROSPACE
3050 SOUTH HYDRAULIC
WICHITA, KS 67216

KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

SOLD TO:

CAS AERO%AM CASTLE METALS
ATTN: BOB OHR %ACCTS PAYABLES
3400 NORTH WOLF ROAD
FRANKLIN PARK, IL 60131

CERTIFIED TEST REPORT

Serial Number

4172660

CUSTOMER PO NUMBER: 15132		WORK PACKAGE:		CUSTOMER PART NUMBER: 6879 AMC A97075-60		SHIP RUN/LOAD ID: 101636/8		GOV'T CONTRACT NUMBER:		
KAISER ORDER NO: 1087324		LINE ITEM: 1	SHIP DATE: 29-SEP-2009		ALLOY: 7075	CLAD: BARE	TEMPER: T7351	PRODUCT DESCRIPTION: Sawed Plate		
WEIGHT SHIPPED: 41304 LB		QUANTITY: 23 PCS EST.		B/L NUMBER: 2024219		GAUGE: 2.5000 IN		DIAMETER/WIDTH: 48.500 IN		LENGTH: 144.500 IN

Certified Specifications

AMS 4078/RevG
ASTM B 209/Rev07
BSS 7055/RevA
DPS 4.713/RevAH
GSS16100/RevG/Amd1

AMS-QQ-A-250/12
ASTM B 594/Rev06
CMMP 025/RevS
EAC MS1011/RevE
MMS 159/RevN

AMS-STD-2154
BAC 5439/RevH
CSTI 006/RevC
GAMPS 9101/RevB
PS 21211/RevK

Test Code: 4297

Test Results

Lot: 479608A2 Cast 268

Drop 23

Ingot 1

mf
11/02/02

(ASTM E8/B557)

(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	71.5 : 71.8 (493 : 495)	59.8 : 60.1 (412 : 414)	11.3 : 11.6

(ASTM E1004)

(EN 2004-1)

Conductivity %IACS :	40.9 Min	41.5 Max
(MS/M) :	23.7 Min	24.1 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.10	0.20	1.5	0.03	2.5	0.19	5.7	0.04	0.01	0.02	TOT 0.05

TEST REPORTS AND
DATA CONFIRMED



**KAISER
ALUMINUM**Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586**CERTIFIED TEST REPORT**Serial Number
4172660

Lot: 485572A2 Cast 271 Drop 26 Ingot 1

(ASTM E8/B557)
(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	70.8 : 72.4 (488 : 499)	58.4 : 60.2 (403 : 415)	10.9 : 11.2

(ASTM E1004)
(EN 2004-1)

Conductivity %IACS :	40.6 Min	40.9 Max
(MS/M) :	23.5 Min	23.7 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.10	0.22	1.5	0.04	2.5	0.20	5.7	0.03	0.01	0.02	TOT 0.05

Lot: 485579A7 Cast 271 Drop 27 Ingot 1

(ASTM E8/B557)
(EN 2002-1)

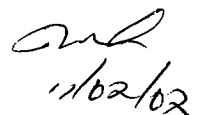
Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	71.0 : 72.3 (490 : 499)	58.9 : 60.1 (406 : 414)	10.7 : 11.1

(ASTM E1004)
(EN 2004-1)

Conductivity %IACS :	39.7 Min	40.6 Max
(MS/M) :	23.0 Min	23.5 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.11	0.20	1.5	0.08	2.6	0.19	5.6	0.02	0.01	0.01	TOT 0.05





Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4172660

Lot: 485604A3 Cast 271 Drop 23 Ingot 2

(ASTM E8/B557)
(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	71.8 : 72.0 (495 : 496)	59.9 : 60.4 (413 : 416)	10.6 : 10.9

(ASTM E1004)

(EN 2004-1)

Conductivity %IACS :	41.3 Min	41.3 Max
(MS/M) :	24.0 Min	24.0 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.11	0.21	1.5	0.04	2.5	0.20	5.6	0.04	0.01	0.01	TOT 0.05

Lot: 485663A9 Cast 271 Drop 29 Ingot 4

(ASTM E8/B557)
(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	70.8 : 73.3 (488 : 505)	58.7 : 62.7 (405 : 432)	10.8 : 11.5

(ASTM E1004)

(EN 2004-1)

Conductivity %IACS :	39.0 Min	42.0 Max
(MS/M) :	22.6 Min	24.4 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.09	0.18	1.4	0.04	2.4	0.20	5.7	0.03	0.01	0.01	TOT 0.05

**KAISER
ALUMINUM**

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4172660

Lot: 485715A7 Cast 271 Drop 21 Ingot 4

(ASTM E8/B557)
(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	71.4 : 72.4 (492 : 499)	59.2 : 60.9 (408 : 420)	11.2 : 11.4

(ASTM E1004)
(EN 2004-1)

Conductivity %IACS :	40.9 Min	41.2 Max
(MS/M) :	23.7 Min	23.9 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.11	0.21	1.5	0.04	2.5	0.19	5.5	0.04	0.01	0.01	TOT 0.05

Lot: 485730A6 Cast 271 Drop 29 Ingot 3

(ASTM E8/B557)
(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	71.6 : 74.0 (494 : 510)	59.9 : 63.3 (413 : 436)	11.3 : 11.3

(ASTM E1004)
(EN 2004-1)

Conductivity %IACS :	39.3 Min	42.1 Max
(MS/M) :	22.8 Min	24.4 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.09	0.18	1.4	0.04	2.4	0.20	5.7	0.03	0.01	0.01	TOT 0.05

ALLOY LIMITS

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
7075 MIN	0.00	0.00	1.2	0.00	2.1	0.18	5.1	0.00	0.00	0.00	EACH	0.05
MAX	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.05	TOT	0.15

Aluminum Remainder

**KAISER
ALUMINUM**

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4172660

TEST NOTES

7075-T7351 plate 3.501-4.000" thick, if
ultrasonically inspected, meets requirements of CMMP025 per
SDR CMMP025-KaiserT-3. 7075-T7351 plate 4.001-5.000" thick,
if ultrasonically inspected, meets requirements of CMMP025
per
SDR CMMP025-KaiserT-2.

Metal represented by this test report was immersion
ultrasonically tested from one side and meets the Class A
and Class B requirements of all specifications referenced
on this test report.

CERTIFICATION

KAISER ALUMINUM FABRICATED PRODUCTS, LLC (KAISER) HEREBY CERTIFIES THAT METAL SHIPPED UNDER THIS ORDER WAS MELTED IN THE UNITED STATES OF AMERICA OR A QUALIFYING COUNTRY PER DFARS 225.872-1(a), WAS MANUFACTURED IN THE UNITED STATES OF AMERICA, AND MEETS THE REQUIREMENTS OF DFARS 252.225 FOR DOMESTIC CONTENT. THIS MATERIAL HAS BEEN INSPECTED, TESTED, AND FOUND IN CONFORMANCE WITH THE REQUIREMENTS OF THE APPLICABLE SPECIFICATIONS AS INDICATED HEREIN. ALL METAL WHICH IS SOLUTION HEAT TREATED COMPLIES WITH AMS 2772. ANY WARRANTY IS LIMITED TO THAT SHOWN ON KAISER'S STANDARD GENERAL TERMS AND CONDITIONS OF SALE. TEST REPORTS SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF KAISER ALUMINUM FABRICATED PRODUCTS, LLC LABORATORY. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW. ISO-9001:2000 CERTIFIED.

BILL POYNOR, LABORATORIES SUPERVISOR

